Erratum to: Measurement of CP observables in B± → DK*± decays using two- and four-body D final states

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Erratum: Measurement of CP observables in $B^{\pm} \to DK^{*\pm}$ decays using two- and four-body D final states

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Abstract: The measurements of $A_{\pi\pi}$ and R_{KK} in $B^{\pm} \to DK^{*\pm}$ decays were incorrectly reported in the paper [1], due to a transposition of the systematic uncertainties. This error was present in the reporting of the individual systematic uncertainties, the correlation matrix, and in the calculation of R_{CP+}. In this erratum, all tables and final values that need correction are reported, with identical numbering and captions to those in the original publication. As the affected systematic uncertainties are substantially smaller than the statistical uncertainties there is no change to the interpretation of these results and the conclusions. The corrected CP observables are

$$A_{\pi\pi} = 0.15 \pm 0.13 \pm 0.01$$
$$R_{KK} = 1.22 \pm 0.09 \pm 0.02$$
$$R_{CP+} = 1.18 \pm 0.08 \pm 0.02$$

where the first uncertainty is statistical and the second is systematic.

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	$A_{K\pi}$	A_{KK}	$A_{\pi\pi}$	R_{KK}	$R_{\pi\pi}$	$R^+_{K\pi}$	$R^-_{K\pi}$	$A_{K\pi\pi\pi}$	$A_{\pi\pi\pi\pi}$	$R_{\pi\pi\pi\pi}$	$R^+_{K\pi\pi\pi}$	$R^-_{K\pi\pi\pi}$
Statistical	0.023	0.07	0.13	0.09	0.15	0.006	0.004	0.031	0.11	0.13	0.008	0.007
Branching fractions	–	–	0.001	0.013	0.012	–	–	–	0.0008	0.027	–	–
Selection efficiencies	–	–	–	0.007	0.006	0.0002	–	–	0.0008	0.014	–	–
PID efficiencies	–	–	–	0.002	0.002	–	–	–	–	0.002	–	–
Veto efficiencies	–	–	–	–	–	0.0001	–	–	–	–	–	–
$A_{\rm prod}$	0.0073	0.007	0.008	–	–	–	–	0.0079	0.0077	–	–	–
$A_{\rm det}$	0.0034	0.003	0.003	–	–	0.0001	–	0.0034	0.0030	–	0.0001	–
Signal shape	0.0011	0.003	0.003	0.011	0.027	0.0011	0.0013	0.0017	0.0022	0.010	0.0030	0.0038
Combinatorial shape	0.0012	0.003	0.005	0.004	0.009	0.0002	0.0003	0.0001	0.0018	–	0.0012	0.0004
Partially reconstructed shape	0.0007	0.001	0.003	0.001	0.005	–	0.0003	0.0003	0.0005	0.002	0.0008	0.0001
Charmless	0.0008	–	0.003	0.002	0.007	–	0.0003	0.0009	0.0030	0.002	0.0008	0.0001
$\Lambda^0_b \to \Lambda^+_c K^{*-}$	0.0002	–	–	0.011	0.001	0.0001	–	–	–	–	–	–
$B^0_s \to DK^*(1410)^0$	–	–	–	–	–	0.0005	0.0001	–	–	–	–	–
Total systematic	0.0083	0.009	0.012	0.022	0.032	0.0012	0.0014	0.0088	0.0093	0.032	0.0034	0.0038

Table 2. Summary of systematic uncertainties. Uncertainties are not shown if they are more than two orders of magnitude smaller than the statistical uncertainty.

	$A_{K\pi}$	A_{KK}	$A_{\pi\pi}$	R_{KK}	$R_{\pi\pi}$	$R^+_{K\pi}$	$R^-_{K\pi}$	$A_{K\pi\pi\pi}$	$A_{\pi\pi\pi\pi}$	$R_{\pi\pi\pi\pi}$	$R^+_{K\pi\pi\pi}$	$R^-_{K\pi\pi\pi}$
$A_{K\pi}$	1	0.82	0.72	–	–	0.01	−0.02	0.94	0.84	–	−0.01	–
A_{KK}		1	0.65	−0.04	0.02	0.01	−0.02	0.83	0.77	–	–	–
$A_{\pi\pi}$			1	–	−0.03	–	−0.02	0.72	0.68	–	–	0.01
R_{KK}				1	–	0.05	0.03	−0.01	–	−0.01	−0.01	−0.01
$R_{\pi\pi}$					1	0.06	0.08	−0.01	–	−0.01	−0.02	0.01
$R^+_{K\pi}$						1	0.08	−0.01	–	–	−0.01	−0.01
$R^-_{K\pi}$							1	−0.01	−0.01	−0.01	0.01	0.03
$A_{K\pi\pi\pi}$								1	0.84	–	−0.01	−0.02
$A_{\pi\pi\pi\pi}$									1	0.03	0.01	–
$R_{\pi\pi\pi\pi}$										1	0.01	−0.01
$R^+_{K\pi\pi\pi}$											1	0.05
$R^-_{K\pi\pi\pi}$												1

Table 4. Correlation matrix of the systematic uncertainties for the twelve physics observables from the simultaneous fit to data. Only half of the symmetric matrix is shown.

References

[1] LHCb collaboration, *Measurement of CP observables in $B^\pm \to DK^{*\pm}$ decays using two- and four-body D final states*, *JHEP* **11** (2017) 156 [arXiv:1709.05855] [INSPIRE].

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